TEMPERATURE SENSOR

ITS FUNCTION

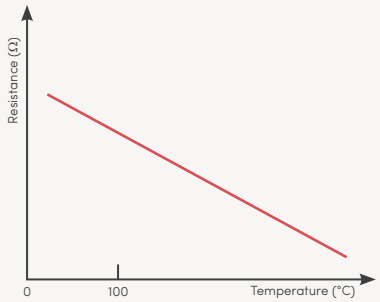
The temperature sensor **measures the temperature of a fluid** (coolant, oil, exhaust gas, etc.) or the air and **transmits the information to the vehicle's ECU**. It optimises combustion, cooling, pollution control and the correct operation of various electronic systems. It **adjusts engine parameters**, reducing fuel consumption and emissions, while detecting the risk of overheating to ensure the safety and durability of the mechanical components involved.

GOOD TO KNOW

The temperature sensor can be located in several places depending on its function:

- **Coolant temperature:** mounted on the cylinder head or radiator.
- **Intake air temperature:** integrated into the intake pressure sensor (MAP sensor) or placed in the intake duct.
- **Outside temperature:** located under the front bumper, behind the radiator grille, in the exterior rear-view mirror, or under the coolant reservoir.

ILLUSTRATION



How NTC (Negative Temperature Coefficient) technology works: as the temperature rises, the value of the resistor decreases. The higher the temperature, the lower the resistance.

TECHNOLOGIES

Temperature sensors use **two main technologies**: thermistors (NTC or PTC) and thermocouples.

In most modern vehicles, NTC thermistors are the most commonly used because of **their affordability, accuracy over the relevant temperature range and fast response**.

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